REMARKS/ARGUMENTS

Claims 1-20 are pending in this application.

Claims 4, 9, 14, and 19 were objected to for being dependent upon non-elected claims. Applicant has withdrawn Claims 4, 9, 14, and 19 from further consideration. Accordingly, Applicant respectfully requests reconsideration and withdrawal of this objection.

Non-elected Claims 3, 4, 6, 8-10, 13, 16, and 18-20 are dependent upon generic Claims 1 and 11. Applicant respectfully requests that the Examiner rejoin and allow Claims 3, 4, 6, 8-10, 13, 16, and 18-20 when generic Claims 1 and 11 are allowed.

Claims 1, 2, 4, 5, 7, 9, 11, 12, 14, 15, 17, and 19 were rejected under 35 U.S.C. § 101 because the claimed invention allegedly is not supported by either a credible asserted utility or a well established utility. Particularly, the Examiner alleged, "since the 'speakers are vibrated in a frequency range of piston vibration and are in phase with each other' (See claims 1 and 11 and specification page 3, paragraph 3), therefore, since the propagation speed is dependent on the wavelength and frequency of the wave not the amplitude of the wave the wavelength and frequency of the waves will be the same and the wave front produced will be a linear wave and the propagation speed will be the same. Furthermore, wave propagation speed is greatly determined by the medium through which the wave is moving and in the current application the medium is assumed to be air since no other medium is disclosed. Generation of spherical wavefronts can be achieved through input delays of speaker arrays and through physical positioning of speakers in various planes and locations. Therefore, the generation of a pseudo-spherical wavefront as disclosed and claimed by the applicant is not either a credible asserted utility or a well established utility." Applicant respectfully traverses this rejection.

As clearly disclosed in the second and third full paragraphs on page 7 of the originally filed specification:

> In the speaker system 1, an audio signal input through the audio signal line 14 is applied to the main speaker 11 and the subordinate speaker 12. Then, when the frequency of the audio signal is within the frequency range of piston vibration of the speakers 11 and 12, the subordinate speaker 12 is vibrated so as to have the same phase and about one-half the amplitude as the main speaker 11 in the non-vibration area away from the vibration area which is vibrated by the main speaker 11. In this manner, when the vibration speed of air particles produced by the vibration of a speaker is defined as the propagation speed of a sound wave, the propagation speed of a sound wave produced by the vibration of the subordinate speaker 12 is substantially one-half of the vibration speed of a sound wave produced by the vibration of the main speaker 11. As a result, as shown by a two-dot chain line, the wave front of the propagation is a pseudo-spherical wave 17, when the speaker system 1 is viewed as a whole.
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> In the first preferred embodiment, since each of the main speaker 11 and the subordinate speaker 12 includes a cone-type dynamic speaker, sufficiently large sound volume is obtained when compared with when a dome-type speaker of the same size is used. Furthermore, since the main speaker 11 and the subordinate speaker 12 are arranged on the same surface so as not to lie one on top of another and the subordinate speaker 12 is vibrated so as to have the same phase and about one-half amplitude as the main speaker 11 in the non-vibration area which is not vibrated by the main speaker, the speaker system 1 generates a propagation wave front that is substantially a spherical wave as a whole. Therefore, a mellow and rich tone quality is obtained. Furthermore, very little disturbance of the air is caused, natural sounds are transmitted, and sound sources are not scattered. Accordingly, the acoustic orientation is stabilized and wide listening positions are obtained.

Contrary to the Examiner's allegations, even if the wavelength and the frequency of the waves of the main speaker and the subordinate speaker are the same, the vibration velocity of the speaker, i.e., the propagation speed, can be varied by controlling the magnitude or the efficiency of the input signals. Thus, the mere fact that the main speaker and the subordinate speaker are vibrated in a frequency range of piston vibration and are in phase with each other, as disclosed in the originally filed specification, certainly does not mean that a linear wave would be produced.

As clearly disclosed in the originally filed specification, when the subordinate speaker 12 is vibrated so as to have the same phase and about one-half the amplitude as the main speaker 11, e.g., by controlling the magnitude or efficiency of the input signals to the main and/or subordinate speakers 11, 12, the wave front of the propagation is a pseudo-spherical wave 17 when the speaker system 1 is viewed as a whole, as shown in Fig. 2, **not** a linear wave as alleged by the Examiner.

Therefore, contrary to the Examiner's allegations, the claimed invention is clearly supported by a credible asserted utility and/or a well established utility, i.e., a speaker which produces pseudo-spherical waves to provide a mellow and rich tone quality, as disclosed in the originally filed specification.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of Claims 1, 2, 4, 5, 7, 9, 11, 12, 14, 15, 17, and 19 under 35 U.S.C. § 101.

Claims 1, 2, 4, 5, 7, 9, 11, 12, 14, 15, 17, and 19 were rejected under 35 U.S.C. 112, first paragraph. The Examiner alleged, "since the claimed invention is not supported by either a credible asserted utility or a well established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention." Applicant respectfully traverses this rejection.

As set forth above, contrary to the Examiner's allegations, the claimed invention is clearly supported by a credible asserted utility and/or a well established utility. Thus, Applicant respectfully submits that one skilled in the art would certainly know how to use the claimed invention.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of Claims 1, 2, 4, 5, 7, 9, 11, 12, 14, 15, 17, and 19 under 35 U.S.C. § 112, first paragraph.

In view of the foregoing remarks, Applicant respectfully submits that Claims 1 and 11 are allowable. Claims 2, 5, 7, 9, 12, 15, and 17 depend upon Claims 1 and 11, and are therefore allowable for at least the reasons that Claims 1 and 11 are allowable. In addition, Applicant respectfully requests that the Examiner rejoin and allow non-

elected Claims 3, 4, 6, 8-10, 13, 16, and 18-20, which are dependent upon generic Claims 1 and 11.

In view of the foregoing remarks, Applicant respectfully submits that this application is in condition for allowance. Favorable consideration and prompt allowance are solicited.

The Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1353.

Respectfully submitted,

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